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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,464	03/05/2004	Liang-Yun WANG	MTKP0143USA	2463
27765	7590	06/19/2007	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			WU, CHRISTOPHER L	
			ART UNIT	PAPER NUMBER
			2182	
			NOTIFICATION DATE	DELIVERY MODE
			06/19/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/708,464	<b>Applicant(s)</b> WANG, LIANG-YUN	
	<b>Examiner</b> Christopher L. Wu	<b>Art Unit</b> 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application:
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Acknowledging preliminary amendment filed 05-27-2004, the instant application having Application No. 10/708464 has a total of 48 claims pending in the application; there are 5 independent claims and 43 dependent claims, all of which are ready for examination by the examiner.

#### *Oath/Declaration*

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63**.

#### *Objections to the Specification*

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **element 216 in Figure 2**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1, 11, 20, 30, & 39** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The metes and bounds of "N devices" is not clearly defined within the specification (specification repeats the claim limitation "N devices"). For the purposes of examination the definition is best understood to be the number of IDE devices able to be connected to the host, "In other words, the single port 410 of the IDE channel 414 can only provide access to a maximum of two devices and, for this reason, the product 506 can have a maximum of only two peripheral devices." ¶[0010].

The following rejections are made based on the examiner's best interpretation of the claims in light of the 35 USC 112 rejection.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1-48** are rejected under 35 U.S.C. 102(b) as being anticipated by **Jones et al. (US 2003/0084221 A1)**.

As per Claims 1, 9, 11, 20, 28, 30, 39, & 47, Jones discloses, "An electronic system comprising: a host; (**pc 20 in Fig. 9**) a controller electrically coupled to the host (**chip 40 in Fig. 9**) through a single port (**46 in Fig. 9**) of a predetermined interconnection means (**IDE interface ¶[0046]**), the single port being designed for providing the host access to N devices (**IDE devices connected to the host by interface ¶[0046]**); and M peripheral devices electrically coupled to the controller; (**devices 62, 64, 66, 68, and 70 in Fig. 9**) wherein M is greater than N (**host can choose which of the connected devices to access by chip 40 in Fig. 9**) and the controller allows the host to access the peripheral devices using the single port. (**chip 40 connects pc 20 through connector 46 all Fig. 9**)". As per the limitations of direct data transfers (in **Claims 9, 11, 28, 30, & 47**), Jones discloses, "The electronic system of claim 1, wherein the M peripheral devices include a first peripheral device (**flash-memory cards 62-68 in Fig. 9**) and a second peripheral device (**disk 70 in Fig. 9**), and the controller (**chip 40 in Fig. 9**) directly transfers data stored on the first peripheral device to the second peripheral device without buffering the data in the host." **Copying from flash-memory cards to removable disk without being connected (or buffering data) in the host (pc). ¶[0092 & 0093]**. As per the limitations of memory for the extra devices (in **Claim 39**), Jones discloses, "...and a memory (**RAM 94 in Fig. 10**) for storing the data, wherein the memory is shared by the extra (M-N) devices." **RAM 94 is shared by chip 40 (Fig. 9) by the devices connected to the controller and used to store (buffer) data. ¶[0100]**

As per Claims 2, 12, 21, 31, & 40, Jones discloses, "The electronic system of claim 1, wherein the predetermined interconnection means is an Integrated Drive Electronics (IDE) bus (**IDE interface ¶[0046]**) or a Serial AT Attachment (SATA) interface. Note claims are in alternative usage format. **Claims 12, 21, 31, & 40** are rejected in similar fashion.

As per Claims 3, 13, 22, 32, & 41, Jones discloses, "The electronic system of claim 1, wherein the host modifies predetermined fields in packets or registers (**fields "nn", "mm", "y", etc. of command ¶[0103]**) in an IDE task file (**IDE task file is a list of commands ¶[0101]**) that are sent to the controller (**chip 40 in Fig. 9**) through the single port (**IDE connector 46**) to specify a target peripheral device (**¶[0110] target device is the slot selected by field mm**)." **Claims 13, 22, 32, & 41** are rejected in similar fashion.

As per Claims 4, 14, 23, 33, & 42, Jones discloses, "The electronic system of claim 3, wherein the predetermined fields are control codes (**control codes being the value of "nn", "mm", "y", etc. ¶[0101-0111]**) or reserved vendor-specific bits in ATA Packet Interface (ATAPI) packets that are sent to the controller (**chip 40 in Fig. 9**) through the single port (**IDE connector 46**) to specify the target peripheral device." Note claims are in alternative usage format. **Claims 14, 23, 33, & 42**, are rejected in similar fashion.

As per Claims 5, 15, 24, 34, & 43, Jones discloses, "The electronic system of claim 1, wherein the M peripheral devices electrically coupled to the controller at least comprise an optical storage device (**cd-rom ¶[0119]**) and a non-volatile storage device. (**62-68 in fig. 9**)" **Claims 15, 24, 34, & 43**, are rejected in similar fashion.

As per Claims 6, 16, 25, 35, & 44, Jones discloses, "The electronic system of claim 5, wherein the non-volatile storage device is a flash card access device (62-68 in fig. 9) or a hard-disk drive." **Claims 16, 25, 35, & 44** are rejected in similar fashion.

As per Claims 7, 17, 26, 36, & 45, Jones discloses, "The electronic system of claim 1, wherein the host schedules packets (control and transfer routines ¶[0096] along with timers 96 in Fig. 10) sent to the M peripheral devices according to a priority ranking (transfer and handshake sub-routines ¶[0096])." **The control and transfer routines determine which packets (data) and when are transferred between the flash-memory and removable disk through the controller chip 40 in Fig. 9. The priority ranking is controlled by the timer in order to handshake and match transfer speeds between the two devices, letting one device transfer more (or less) data through the system (priority) in order to match speeds with the other. (see NPL FOLDOC entry for "handshaking" which is relied upon as extrinsic evidence to support the definition of handshake)** **Claims 17, 26, 36, & 45** are rejected in similar fashion.

As per Claims 8, 18, 27, 37, & 46, Jones discloses, "The electronic system of claim 7, wherein the priority ranking is a dynamic ranking (transfer and handshake sub-routines ¶[0096]) that varies according to operations or speed settings (handshake sub-routines ¶[0096]) of the peripheral devices." **The priority ranking is controlled by the timer in order to handshake and match transfer speeds between the two devices, letting one device transfer more (or less) in order to match speeds with the other. Note claims are in alternative usage format.** **Claims 18, 27, 37, & 46** are rejected in similar fashion.

As per Claims 10, 19, 29, 38, & 48, Jones discloses, "The electronic system of claim 1, wherein the host determines which peripheral devices are coupled to the controller and builds a set of

virtual drives (drive letter f: - h: in ¶[0092]) in an operating system (OS) of the host corresponding the peripheral devices coupled to the controller." ¶[0092] Claims 19, 29, 38, & 48 are rejected in similar fashion.

*Acknowledgement of References Cited By Applicant*

8. As required by M.P.E.P. 609(c), the applicant's submission of the Information Disclosure Statement dated October 15th, 2002 is acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending. As required by M.P.E.P 609 C(2), a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

*Relevant Art Cited By the Examiner*

9. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See MPEP 707.05(c).

The following references teach packet switching and processing:

Name	US Reference #
Jones	US 2003/0041203 A1

*Conclusion*

10. The examiner requests, in response to this Office action, support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for



newly added claim language by specifically pointing to page(s) and line no(s) in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.

11. When responding to this office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L. Wu whose telephone number is (571) 272-9775. The examiner can normally be reached on Monday through Friday 7:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 6, 2007

  
KIM HUYNH  
SUPERVISORY PATENT EXAMINER

6/7/07